




AMERICAN TOWER®
CORPORATION

Review of Tower Inspection and Summary of Remediation

ATC Site Number & Name	306035 Unity Village MO 2, MO	Reviewed By: 
Site Location	2150 NW Lowenstein Lees Summit, MO 64081-1905, Jackson County 38.93367222 N / -94.41720833 W	
Tower Description	191 ft Self Support	
Inspection Company & Date	TOWER ENGINEERING PROFESSIONALS 2/19/2020	
Per request the following information has been compiled:		
<ul style="list-style-type: none"> • Most recent Inspection Report to record the physical state of the tower structure per ANSI/TIA requirements. • Summaries of the individually noted issues called out in the report, along with what has been or will be done to correct them. • Any remediation drawings to correct issues found in inspection report, along with closeouts if available. 		

Inspection Report Comments / Responses:

- Surface corrosion observed on TOWER LEG member(s) at 55', 74', and 104', A and B Leg. The corroded item has not lost its original shape.

This is only surface in nature and is not considered to be an issue at this time. We will review again in the next TIA inspection, and remediate as needed at that time.

- Tower Twist/Plumb measurements lie outside of allowable ranges determined by the calculations contained in this ATC Inspection Form.

This has been reviewed and is not considered to be a structural issue at this time. We will review again in the next TIA inspection, and remediate as needed at that time.

- The DBI Sala (Strandvise) safety climb system installed to 189', on AB Face is recommended for replacement due to the following reason(s): Improper/Unsafe Installation.

This has been corrected per ATC Project 13101469_N3_01.

- Tower base grounding was observed to be inadequate, there are currently (1) installed properly. [CUT GROUNDING AT 7' AB FACE]

The ATC Operations Site Lead has been contacted and will correct this issue.

- Tower base grounding was observed to be inadequate, there are currently (0) installed properly.

The ATC Operations Site Lead has been contacted and will correct this issue.

The above issues determined to be structural or maintenance concerns will be corrected per ATC Project 13101469_N3_01. Any issues that were deemed to not currently need remediation will be reviewed again in the next TIA inspection, and remediated as needed at that time.



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If any further questions arise, please contact ATC Engineering at Engineering@americantower.com.

Prepared by:
Scott Wirgau
Chief Engineer

Ins Mod Closeout

Site 306035

Site Name Unity Village MO 2

Client American Tower

Prepared For



Date 12/5/20

SC # 200342

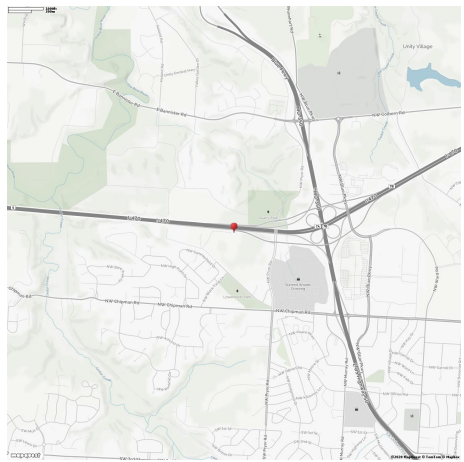
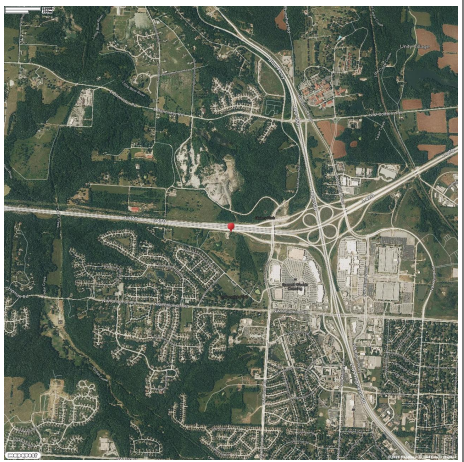
Siterra Project Number ATC115958



Site Summary

Site Name	Unity Village MO 2	Site Address	2150 NW LOWENSTEIN
Site	306035	City	Lees Summit
Region	West	State	MO
		Zip	64081-1905

Site Information

Site Name	Unity Village MO 2	Site	306035
Latitude	38.93367222	Structure Type	Self Support
Longitude	-94.41720833	Tower Height	191'
Street Map		Satellite Map	

Site Summary

Site Name	Unity Village MO 2	Site Address	2150 NW LOWENSTEIN
Site	306035	City	Lees Summit
Region	West	State	MO
		Zip	64081-1905

Scope of Work

Scope of Work #1	See Modification Drawings in Appendix 0
Scope of Work #2	See Modification Drawings in Appendix 0
Mod Drawings	See Appendix 0

Site Summary			
Site Name	Unity Village MO 2	Site Address	2150 NW LOWENSTEIN
Site	306035	City	Lees Summit
Region	West	State	MO
		Zip	64081-1905

Close-Out / Before and After Photos

Number items: Item #1, Item #2, Item #3..., Identify Scope of Work #1 or #2. Example: Item #1 / SOW #1, Item #2 / SOW #1, Item #3 / SOW #2, etc.
 Enter brief description of item: Tower Base Grounding, Re-route Safety Climb, New Safety Climb, Grout Repair, etc.

Upload before photos to "Before" attribute. Upload as-built / after photos to "After" attribute. Use similar camera angles as much as possible for before and after photos. After may require a series of photos uploaded in order.

For all new safety climb installs; put the new safety climb manufacturer and batch / serial number in after attribute.Â

Date of Repair	12/5/20
Any Additional TIA Fixes Required	No
Description of Additional Fixes Required	n/a
New safety climb installed?	No
New Safety Climb Info: Manufacturer / Batch or Serial Number / Installed Cable Length	n/a

Item # / SOW #	Description	Before	After
Item #1 / SOW #1	Adjusted safety climb cable to extend at least 1" pas the carrier clamp.		

Additional Comments	
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Site Summary

Site Name	Unity Village MO 2	Site Address	2150 NW LOWENSTEIN
Site	306035	City	Lees Summit
Region	West	State	MO
		Zip	64081-1905

Appendix

Appendix

GC as built, Garry Margolius, 12/8/2020

Addendums

#	Attribute Key	File Name
Addendum 0	Appendix	STAMPED PDF. Operations @ 306035 Unity Village MO 2, MO (13101469_N3_01) TRS.pdf

Addendum 0

Attribute Key: Appendix

Value: GC as built, Garry Margolius, 12/8/2020

Filename: STAMPED PDF. Operations @ 306035 Unity Village MO 2, MO (13101469_N3_01)
TRS.pdf

4 Pages



NTP Approved: Yes - Safety Climb Usable: No



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TOWER REMEDIATION SCOPE OF WORK

As-Built Sign Off:

Contractor Name

Contractor Representative

Representative Signature

Date

Reviewed By:





ATC Site Number & Name	306035, Unity Village MO 2, MO
Tower Description	191-ft Self Support Tower
Code	TIA-222-G
Site Location	2150 NW LOWENSTEIN Lees Summit, MO 64081-1905 Jackson County 38.93367222, -94.41720833





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Engineering Contact:
engineering@americantower.com


Eng. Number	13101469_N3_01
Date	4/22/2020
Page	1 of 4
Reviewed by	DAVI
Priority	N/A
ATC TOWER SERVICES	
COA: 2015011232	

Bid Item	1		
Deficiency Photo		Description of Work	As-Built Photo
		<p>2</p> <p>Ensure safety climb assembly is properly installed. Adjust safety climb cable to extend at least 1" past the carrier clamp (top washer).</p>	

Bid Item	1		
Deficiency Photo		Description of Work	As-Built Photo
		<p>2</p> <p>Additional photos provided for Bid Item 1. Please see description of work above.</p>	

ATC Site Number & Name	306035, Unity Village MO 2, MO	 <p>AMERICAN TOWER[®] CORPORATION Engineering Contact: engineering@americantower.com</p>	Eng. Number	13101469_N3_01
Tower Description	191-ft Self Support Tower		Date	4/22/2020
Code	TIA-222-G		Page	2 of 4
Site Location	2150 NW LOWENSTEIN Lees Summit, MO 64081-1905 Jackson County 38.93367222, -94.41720833		Reviewed by	DAVI
			Priority	N/A
			ATC TOWER SERVICES	COA: 2015011232

Bid Item	1		
Deficiency Photo		Description of Work	2 As-Built Photo
		Additional photos provided for Bid Item 1. Please see description of work above.	

ATC Site Number & Name	306035, Unity Village MO 2, MO	 AMERICAN TOWER [®] CORPORATION Engineering Contact: engineering@americantower.com	Eng. Number	13101469_N3_01
Tower Description	191-ft Self Support Tower		Date	4/22/2020
Code	TIA-222-G		Page	3 of 4
Site Location	2150 NW LOWENSTEIN Lees Summit, MO 64081-1905 Jackson County 38.93367222, -94.41720833		Reviewed by	DAVI
			Priority	N/A
			ATC TOWER SERVICES	COA: 2015011232

General Notes

General

1. All work to be completed per applicable local, state and federal codes and ordinances and comply with ATC Construction Specifications for wireless tower sites. The contractor is responsible for obtaining and abiding by all required permits.
2. All work indicated on these drawings shall be performed by qualified contractors experienced in tower and foundation construction.
3. The contractor shall notify the engineer of record immediately of any installation interferences. All new work shall accommodate existing conditions. Details not specifically shown on the drawings shall follow similar details for this job.
4. Any substitutions shall conform to the requirements of these notes and specifications, and should be similar to those shown. All substitutions shall be submitted to the engineer of record for review and approval prior to fabrication.
5. Any manufactured design elements shall conform to the requirements of these notes and specifications and should be similar to those shown. These design elements must be stamped by an engineer professionally registered in the state of the project, and submitted to the engineer of record for approval prior to fabrication.
6. All work shall be done in accordance with local codes and OSHA safety regulations.
7. The contractor is responsible for the design and execution of all miscellaneous shoring, bracing, temporary supports, etc. Necessary, per ANSI/TIA-322 and ANSI/ASSE A10.48, to provide a complete and stable structure as shown on these drawings.
8. Contractor's proposed installation shall not interfere, nor deny access to, any existing operational and safety equipment.

Paint

1. As required, clean and paint proposed steel according to FAA advisory circular AC 70/7460-1K.

Bolt Tightening Procedure

1. Structural connections to be assembled and inspected in accordance with RCSC Specifications (specifications for structural joints using ASTM A325 or ASTM A490 bolts.)
2. Flange bolts shall be installed and tightened using direct tension indicating (DTI) squirter washers. DTI squirter washers are to be installed and oriented / tightened per manufacturer specifications to achieve desired level of bolt pre-tension.
3. In lieu of using DTI squirter washers, flange bolts may be tightened using AISC / RCSC "turn-of-the-nut" method, pending approval by the engineer of record (EOR). Tighten flange bolts using the chart below:

Bolt lengths up to and including four diameters	+1/3 turn beyond snug tight
Bolt lengths over four diameters but not exceeding eight diameters	+1/2 turn beyond snug tight

4. Splice bolts subject to direct tension shall be installed and tightened as per section 8.2.1 of the AISC "specification for structural joints using A325 or A490 bolts", located in the AISC manual of steel construction. The installation procedure is paraphrased as follows:


Fasteners shall be installed in properly aligned holes and tightened by one of the methods described in subsection 8.2.1 through 8.2.4.

8.2.1 Turn-of-Nut Pretensioning

Bolts shall be installed in all holes of the connection and brought to a snug tight condition as defined in section 8.1, until all the bolts are simultaneously snug tight and the connection is fully compacted. Following this initial operation all bolts in the connection shall be tightened further by the applicable amount of rotation specified above. During the tightening operation there shall be no rotation of the part not turned by the wrench. Tightening shall progress systematically.

5. All other bolted connections shall be brought to a snug tight condition as defined in section 8.1 of the specification.

All bolt holes shall be aligned to permit insertion of the bolts without undue damage to the threads. Bolts shall be placed in all holes with washers positioned as required and nuts threaded to complete the assembly. Compacting the joint to the snug-tight condition shall progress systematically from the most rigid part of the joint. The snug-tightened condition is the tightness that is attained with a few impacts of an impact wrench or the full effort of an ironworker using an ordinary spud wrench to bring the connected plies into firm contact.

ATC Site Number & Name	306035, Unity Village MO 2, MO	 AMERICAN TOWER [®] CORPORATION Engineering Contact: engineering@americantower.com	Eng. Number	13101469_N3_01
Tower Description	191-ft Self Support Tower		Date	4/22/2020
Code	TIA-222-G		Page	4 of 4
Site Location	2150 NW LOWENSTEIN Lees Summit, MO 64081-1905 Jackson County 38.93367222, -94.41720833		Reviewed by	DAVI
			Priority	N/A
		ATC TOWER SERVICES	COA: 2015011232	

ATC TOWER INSPECTION FORM



AMERICAN TOWER
CORPORATION

ANSI-TIA-222 Compliant

SECTION A - SITE INFORMATION

ATC Site Number : 306035	ATC Site Name, State : Unity Village MO 2
Site Address : 2150 NW LOWENSTEIN	Number of Compounds :
City/State : Lees Summit, MO 64081	Date of Inspection : 2/19/20
Contractor Name : TOWER ENGINEERING PROFESSIONAL	Tower Elevation Photo : Unity Village MO 2 (306035) 143.JPG
Inspection Completed By : Sky Rimmille, Max Wagner	SC Tagged Out? : Yes

SECTION B - TOWER INFORMATION

Structure Type : Self-Supporting	# of Tower Legs : 3
Tower Height : 189'	Safety Climb Installed? : Yes Location: AB Face
Overall Structure Height : 189.54'	Safety Climb Manuf. : DBI Sala Climbing Facil. Ladder
Tower Manufacturer : CNR	AM Detuning ? : No

SECTION C - SITE INFORMATION CATEGORIES

SECTION A - Site Information	SECTION G - Safety Comments
SECTION B - Tower Information	SECTION H - Grounding Comments
SECTION C - Tower Information Summary Comments	SECTION I - Guy Anchors & Wires Comments
SECTION D - Summary of Deficiencies	SECTION J - AM Detuning Comments
SECTION E - Tower Foundation Comments	SECTION K - Compliance
SECTION F - Tower Structure Comments	

SECTION D - SUMMARY OF OBSERVATIONS

Instructions: List Comments in Sections E through J as applicable. Section D Summary will automatically populate.

1. Surface corrosion observed on TOWER LEG member(s) at 55', 74', and 104', A and B Leg. The corroded item has not	Photos: Unity Village MO 2 (306035) 214.JPG
2. Tower Twist/Plumb measurements lie outside of allowable ranges determined by the calculations contained in this ATC	Photos: Unity Village MO 2 (306035)
3. The DBI Sala (Strandwise) safety climb system installed to 189', on AB Face is recommended for replacement due to	Photos: Unity Village MO 2 (306035)
4. Tower base grounding was observed to be inadequate, there are currently (1) installed properly. [CUT GROUNDING AT	Photos: Unity Village MO 2 (306035)
5. Tower base grounding was observed to be inadequate, there are currently (0) installed properly.	Photos: Unity Village MO 2 (306035)
6.	Photos:
7.	Photos:
8.	Photos:
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19.	Photos:
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SECTION E - TOWER FOUNDATION

Instructions
Tower base should be visually inspected for spalling and cracking of the concrete. The soil surrounding the tower base foundation should be inspected for evidence of settlement. Any such settlement or movement should be noted.
Base drains (if present) should be clear of any obstructions. Penetrate drain with object to ensure drains functioning.
Base insulators (if present) - The porcelain surface should be wiped clean with a soft cloth to remove any salt deposits or other foreign substance. A check should be made for any evidence of deterioration or cracks in the porcelain surface.
All discrepancies must be marked with masking tape and magic marker.
All discrepancies must be noted and photographed and numbered.

- Is tower center pin in place?
- Is tower center pin free of corrosion?
- Are all base plate bolts, nuts, and washers present?
- Is the tower foundation in good condition? (No cracking, spalling, or settling)
- Is the concrete tower base free from standing water?
- Are base drains clear and free flowing? (Drains required only under tubular legs.)
- Is porcelain surface of base insulators in good condition? (No deterioration or cracking)
- Is the soil around the foundation in good condition? (No settling or movement)

If any comments exceed one row please expand the row height so that all of the text is visible. To expand rows automatically, click the Select All button, then click AutoFit Row Height in the Cells/Format box.

Comments:

1.	Photos:
2.	Photos:
3.	Photos:
4.	Photos:
5.	Photos:
6.	Photos:
7.	Photos:
8.	Photos:
9.	Photos:

Instructions

Corrosion - If corrosion is observed, the source should be determined and noted.

Damaged or faulty members - A visual inspection must be made of the entire tower structure to determine if any of the members have been deformed or damaged. Any bowed, bent or damaged member/bolt should be noted as to part number, size, location on tower, nature and magnitude of deformation or damage.

Do not remove any tower member for replacement unless authorized by ATC Engineering Dept - Signed/Sealed Construction Drawings are required if a All discrepancies must be marked with masking tape and magic marker. All discrepancies must be noted and photographed before and after repair.

- Is the tower free of rust? (If "No", be specific in the comments below.)
- Are all structural members straight and not damaged, bent, and/or missing?
- Is the tower finish in good condition? (No obvious signs of cracking)

Comments:

1. Surface corrosion observed on TOWER LEG member(s) at 55', 74', and 104', A and B Leg. The corroded item has not	Photos: Unity Village MO 2 (306035)
2. Tower Twist/Plumb measurements lie outside of allowable ranges determined by the calculations contained in this ATC	Photos: Unity Village MO 2 (306035)
3.	Photos:
4.	Photos:
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25.	Photos:

SECTION G - SAFETY

Instructions

Safety is paramount- Report anything that makes it unsafe to operate or maintain this tower to ATC immediately.

All discrepancies must be marked with masking tape and magic marker. All discrepancies must be noted and photographed before and after repair.

- Is there a safety climb system?
- Are all components of the safety climb system free of rust?
- Is the cable free from kinks, fraying, broken wires or strands or other damage?
- Is the climbing path free from obstructions allowing a clear path for the cable?
- Is the cable secured by properly spaced cable guides?
- Is the total system properly installed including the top connection? If No, correct and note.
- Is the FCC and ATC signage apparent and placed properly.

Comments:

1. The DBI Sala (Strandwise) safety climb system installed to 189', on AB Face is recommended for replacement due to	Photos: Unity Village MO 2 (306035)
2.	Photos:
3.	Photos:
4.	Photos:
5.	Photos:
6.	Photos:
7.	Photos:
8.	Photos:
9.	Photos:
10.	Photos:

SECTION H - GROUNDING

Instructions

Connections - The connections above grade should be visually checked for loose fittings, ensure wires are snug in mechanical connections or well bonded with exothermic connections at the base of the tower.

Ground Wires - The ground wires at the base should be cad welded to each leg.

Take a photo of the grounding at the base and at each anchor.

All discrepancies must be marked with masking tape and magic marker. All discrepancies must be noted and photographed before and after repair.

- Is the tower base properly grounded?
- Are the guy cables and/or guy anchor heads properly grounded?
- Are ground wires and connections in satisfactory condition?

Is the lightning rod mounted such that it is secured to the structure and not at risk of falling?

Comments:

1. Tower base grounding was observed to be inadequate, there are currently (1) installed properly. [CUT GROUNDING AT	Photos: Unity Village MO 2 (306035)
2. Tower base grounding was observed to be inadequate, there are currently (0) installed properly.	Photos: Unity Village MO 2 (306035)
3.	Photos:
4.	Photos:
5.	Photos:
6.	Photos:
7.	Photos:
8.	Photos:
9.	Photos:
10.	Photos:

Instructions

All discrepancies must be marked with masking tape and magic marker and must be noted and photographed.

Are the guy cables & paths clear of brush, vegetation, fencing or any other obstruction?	X
Are the anchor heads and rods free from any bends and/or fractures?	X
Are the anchor heads and turnbuckle hardware free from soil build-up?	X
Are exposed guy anchor foundations free from cracking, weathering?	X
Do the turnbuckles have room for adjusting tensions? (Not fully extended or contracted?)	X
Are the anchor heads free of corrosion?	X
Is guy anchor rod laterally aligned?	X
Are guy wires free of broken strands or insulators?	X
Are the guy dampers secured and in good condition?	X
Are all shackles, clevises, thimbles, cotter pins, and Crosby clamps properly installed?	X
Are the dead-end grips in good condition?	X
Are the dead-end grip end-sleeves (ice-clips) installed?	X
Are guy wires and guy hardware free of corrosion?	X
Is each turnbuckle safety wire properly installed and secure? If not, make corrections.	X
Are guy wire connections in satisfactory condition?	X
Are guy attachment points to tower in good condition?	X

Note - If anchor shafts show signs of heavy corrosion at any point, stop digging immediately and complete the remainder of the inspection.

Comments:

1.	Photos:
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10.	Photos:
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13.	Photos:
14.	Photos:
15.	Photos:

SECTION J- AM DETUNING

Instructions

All discrepancies must be marked with masking tape and magic marker and must be noted and photographed.

Note: If the tower has a base insulator (decommissioned AM hot tower) the box next to the tower with a single wire feed is NOT an AM detuning device.

- Is there an AM Detuning system on the tower?
- Are the AM Detuning skirt wires securely attached to the tower?
- Are the AM Detuning wires in good condition? (Broken, sharp bends, etc)
- Is the AM Detuning box securely attached to the tower or other mounting system?
- Is the AM Detuning box in good condition? (Sealed, loose or missing hardware, etc)
- Is the exterior of the AM Detuning box free of rust and corrosion?
- Is the AM Detuning system properly grounded?

Comments:

1.	Photos:
2.	Photos:
3.	Photos:
4.	Photos:
5.	Photos:

SECTION K - COMPLIANCE

By signing this report:

- I understand that this information and form are the sole property of American Tower Corporation (ATC) and may not be copied or shared without written permission from ATC.

- I certify that any conditions or items omitted in this report were observed to be in acceptable condition per the criteria specified in the ATC Standard of Care and my own professional experience and judgement.

- I certify this report to be accurate and complete to the best of my knowledge and belief.

Name : Ami Legin

Date : 3/2/20

Company : Tower Engineering Professionals